Unit #2

Summary

ITEM NO. NUMBER EACH ITEM

1 Burners:

installation of

1) flame stabilizers - successful better, more uniform flames pattern ↓ over swirl/turbulence
out away from burner front (some pulsing)
- still testing profiles

4) fuel flow balancing - successful (new restrictors) based on drum end to end imbalance
schedule - another round PA flow testing
[U1 - restrictor changes]

3) Secondary air balancing - successful went thru 2 test interactions
very large perimeter loading
↑ΔP (shrouding) backplates
↓ cooling air / burner front temps
inner/outer split

2) new register settings - successful went thru 2 interactions of Turndowns and settings
1st - increased outer register spin to get turbulence required for flame stability
~~left spin~~ reevaluated inner/outer air ratio split
~~changed~~ backplate settings

2nd - good flames some cases had to compromise burner setup to allow scanners to see flame

3-D modeling $100K model
resolve perimeter loading issue 50-100 labor

Sec air U#1?

flame stabilizers

AGAS

PA flow testing

DAY-TIMERS RE-ORDER No. [illegible] — Printed in USA

IP7_003569

PERFORMANCE:

U2 CRY screens - pluggage

reheat tube repair

Statement on success on why ~~installation~~

~~installation~~ date/removal date

Burners: U2

fuel flow: ~~[illegible]~~ additional testing

U1 ~~#'s to Cecil~~ ~~[illegible]~~R#'s each individually 8 pulv 21 total

sec air balancing:

reg settings:

flame stabilizers:

(Additional Testing) (Turndowns) - H&G

Primary Air Flow testing - All 8 pulv U2 / 2 pulv not available

highest priority ⟹ AGASS testing | I&C

(PC) + NOx rental

check w/ Clark

U1 fuel flow balance restrictors

PA fans status

- B&W ✓
- Howden-Sirocco need
- (U2) - motor evaluation to do

PA flow - calibration
U1 A PdW

Fly ash
→ O2 probes walkdown I&C not maintaining

feeder calibration
? 3-way diverting valves
air in-leakage

PdW variable loading

fitness testing

Need: schedules

rotating threads U2 H ? run quarter motor uncoupled
U1 H

WR
GC
FGX/A Need: Alarm Summary availability
figure out

CP screens plugging rice paper
HRH tires

Indikon WR B followup

Unit 1
- Major Work Orders
- Sectionalized vs Predicted (major overalls)
- leveled - Budgeting
- Time based maint

Craig Stumph — support

U1 Turbine Press Ratio
WR Feedback HR pressure

Concerns w/ last month

Burner Testing

Objectives: Temps

Test Plan

~~Burner~~ Testing

Objectives concerns w/ temp in backpass

Drop O2's

XH4 SB

resolve: O2 problems

What is benefit

why: redistribution heat push to backpass?

Need AGABS grids RH Econ Out

temp profiles

walkdown E-W

Economic Analysis

$

Natch LOIs NOx CO

test report

→ results

3/10/92 | Aaron Nissen

Routine Performance Testing:

Add: Temperature Profiles thru Air-Gas Path

[Block summary pts

Include: Air Side:

Gas Side: EGOT

Ave Tube Metal Temps:

AGASS need to conduct temperature survey 1-pt snap shot
reheat outlet / Econ gas outlet

Routine Perf. Testing

Additional Temperature Profiles thru turbine
from TGSI - wheel spacing temperature
(verifies admission cooling steam flow)

Separate

[need to collect TGSI summary (2-3 snapshots) during routine test]

check into Pressure Profiles thru turbine also

Additions - Temperature Profiles
- ~~Required~~ to conduct diagnostics thru back pass
- Question is that FS on U2 has caused change in heat distribution through back pass

Test Plan

U2 .75 U1 .45

[Broken loading rod U1C / Opposed fired]

Temperature Mapping thru Boiler

O_2, we running higher than we think we are

Before/After outage

FEGT?

pyrosonics

timelines

Monthly

Temp Profiles

Fox1A Screen
All

Reheat Outlet / Econ Gas Outlet

grid on Econ Outlet probes

Total Air Flow

station indication shows higher

Due to both higher Econ Gas Out / Reheat Out

Balancing - anything less air flow

- conduct leak tests Sec Air Foils

problem: O_2 station mstr { automatic calc 10% lower than actual calc

SB higher emphasis on WW SB

* overall Lower O_2 levels to get EGOT

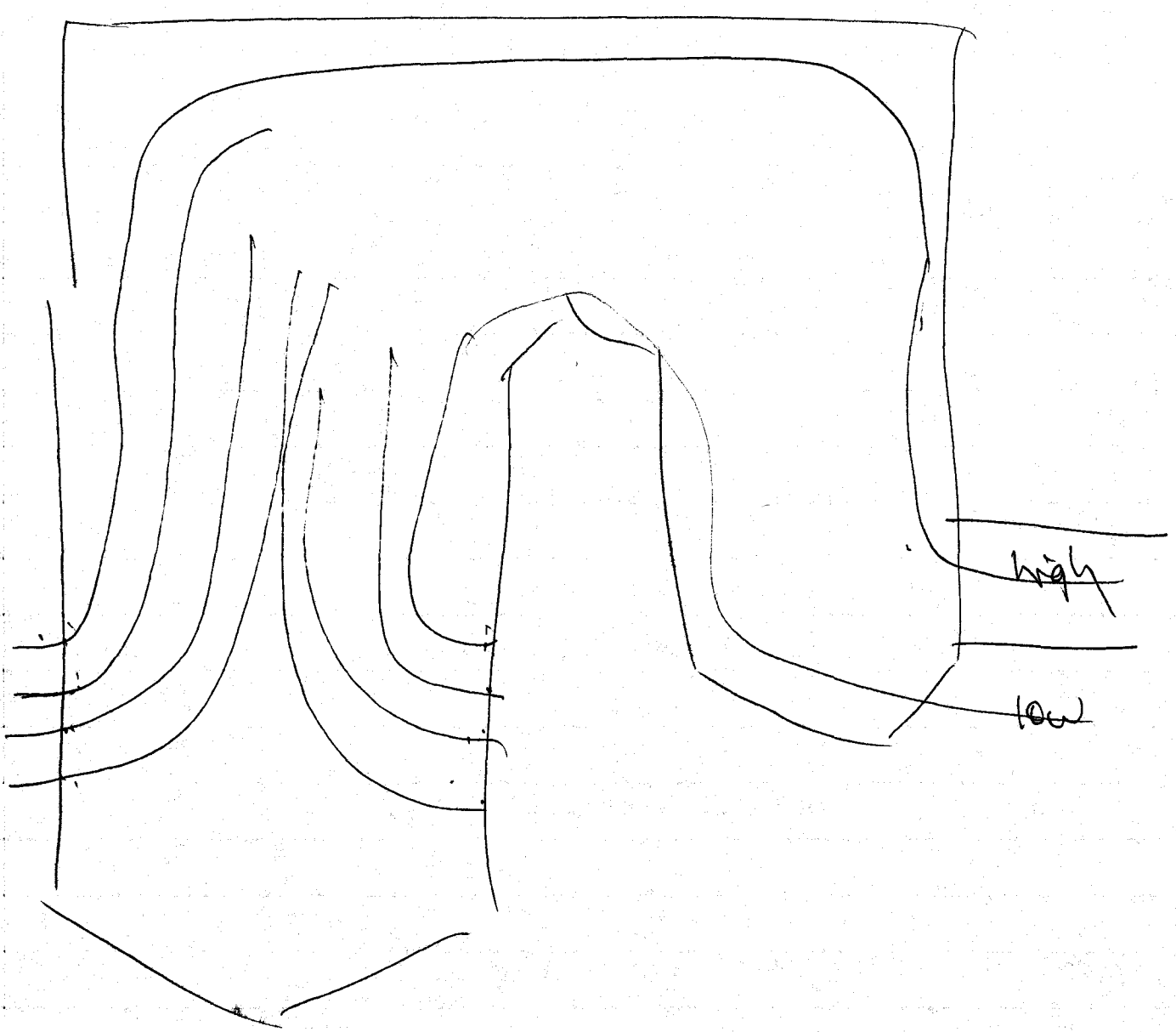
↓O_2

perf improvement

Testing

Resolve WB dampers
Sec Air foils
pyrosonics

O_2 analyzers
E-W distribution


high
low

Max Heat Release = 1,600,000 Btu/hr/ft

~~85×60 × (1,010 Btu/lb 365.2 days/yr 2000 lb/ton / 2000 lb/ton ton/yr)~~

$$\frac{1100.\ \text{Btu/lb} \times 365.2\ \text{days/yr} \times 2000\ \text{lb/ton}}{85 \times 60} \quad \text{~~1000s~~}$$

$$= 1{,}576{,}800$$

the Contractor or outside an area enclosed by boiler equipment. All piping connections shall be prepared for welding.

(h) The boiler parts shall be arranged to avoid interferences and inaccessibilities of equipment which would hamper normal operating and maintenance procedures.

(i) Seals for openings in the boiler shall be welded gastight where practicable. Pulverizers, feeders, damper shafts, and other equipment subject to leakage of pressurized flue gases or air coal mixtures shall be equipped with pressure seals. The IPA will furnish air piping or ducting to the pressure seals.

(j) All parts exposed to flue gas shall be designed to resist attack by sulfur and alkali metal compounds.

(k) All component parts downstream of the economizer shall be designed for a temperature at least 50F higher than the maximum temperature of the gases leaving the economizer.

(l) Designed so that the unit can operate at not less than 60 percent of Maximum Capacity with any one air heater, forced draft fan, or primary air fan out of service.

(m) Designed to reduce load to a load not greater than 50 percent of Maximum Capacity from any load greater than 50 percent of Maximum Capacity at the rate of not less than 5 percent of Maximum Capacity per minute without lifting safety valves, without tripping pulverizers, and without the use of supplemental fuel. ~40MW/min

(n) The burner level heat release rate shall be not more than 1,600,000 Btu per hour per square foot. The burner level heat release rate shall be calculated as follows: The typical higher heating value for Coal B times the pounds of fuel burned at MCR divided by the product of the width and depth of the furnace at the top burner level.

(o) The maximum gas side pressure drop between the furnace and the air heater outlet shall be not more than 12 inches wg at MCR.

(p) Furnace platens or extended surface shall be not less than 80 feet above the top burner centerline.

(q) The gas temperature entering close space platen or pendant surfaces shall be not greater than 1900F at